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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/671,638

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Jung-Tao Liu

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HARNESS, DICKEY & PIERCE, P.L.C.
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EXAMINER

SINKANTARAKORN, PAWARIS

ART UNIT

PAPER NUMBER

2616

MAIL DATE

DELIVERY MODE

04/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/671,638

Applicant(s)

LIU, JUNG-TAO

Examiner

Pao Sinkantarakorn

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 4, 11, and 16 are objected to because of the following informalities:

Regarding claim 4 line 2, the term "includes" should be rewritten as ---include---.

The same is true for claims 11 and 16 line 2.

Claims 5, 12, and 17 are then objected because they depend on claims 4, 11, and 16.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 3, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Choi et al. (US 7,120,132).

Regarding claim 1 and 15, Choi et al. disclose a method of aligning a plurality of physical channels, comprising:

aligning at least two physical channels based on a timing offset (see column 5 lines 31-35 and 60-67, a UE transmits the uplink DPCH, after delay of time T_0 and after

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time L, wherein L is calculated based on the propagation delay value), said at least two channels transmitted over an uplink at a time instant different than that of a third physical channel (see column 5 lines 31-35, the uplink DPCHs are synchronized with one another, but they are not synchronized with the downlink DPCH);

regarding claim 2, the aligning step includes synchronizing subframe boundaries of subframes of the at least two uplink physical channels so that the subframes are transmitted in the uplink at the same time instant (see column 5 lines 60-67, the synchronization of subframe boundaries is done by adding time L to the delay T_0);

regarding claim 3, the subframes of the at least two channels are transmitted in the uplink so as not to overlap with uplink transmission of a subframe of the third channel (see column 5 lines 31-35, the uplink DPCHs are synchronized with one another, but they are not synchronized with the downlink DPCH; the downlink PDCH does not overlap the uplink DPCHs since they are transmitted at different time intervals).

Claim Rejections - 35 USC § 103

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

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not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 4-14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al. in view of Gopalakrishnan et al. (US 2004/0085936).

Regarding claim 4, 11, and 16, Choi et al. disclose all the subject matter of the claimed invention except the method, wherein the at least two physical channels include a control channel configured to support enhanced uplink (EU) services and a data channel configured to support enhanced uplink (EU) services, and the third physical channel is a control channel configured to support high speed downlink packet access (HSPDA) services.

The invention of Gopalakrishnan et al. from the same or similar fields of endeavor disclose a high speed data communications, wherein a first channel is a dedicated physical control channel (DPCCH), a second channel is a dedicated physical data channel (DPDCH), and a third channel is a high speed dedicated physical control channel on the uplink used to support the high speed downlink shared data channel (see paragraph 22 and paragraph 24, EU-DPCCH and EU-DPPCH). Gopalakrishnan et al. also disclose that the inventive arrangement also avoids introducing any unnecessary latency by allowing simultaneous transmission of the EU-DPCCH, DPCCH, DPDCH (see paragraph 37, simultaneous transmission means that the channels are aligned).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the high speed data communications of Gopalakrishnan et al. into the apparatus for synchronizing uplink channels.

The motivation for implementing the high speed data communications is that it provides a more efficient apparatus by reducing unnecessary latency by allowing simultaneous transmissions.

Regarding claim 5, 12, and 17, Choi et al. discloses a method, wherein the timing offset prevents the control channel configured to support enhanced uplink (EU) services from being transmitted in the uplink at the same time as the high-speed control channel configured to support high speed downlink packet access (HSPDA) services (see column 7 lines 55-65, the start point of the scrambling code, which is also the start

point of the primary common control physical channel (P-CCPCH), is not time aligned with the frame start point of the uplink DPCH).

Regarding claims 6, 7, 13, 14, 18, and 19, Choi et al. disclose a method, wherein the timing offset is a timing offset to align a start point of the scrambling code with the frame start point of the P-CCPCH that is used as the time reference (see column 7 lines 55-58) for all physical channels received in the downlink or physical channels to be transmitted in the uplink (see column 2 lines 56-67, P-CCPCH is used as reference channels for both uplink and downlink DPCHs). Choi et al. do not disclose a method for aligning subframes of a shared control channel (SCCH) with a start of a plurality of subframes of a common control channel.

However, the invention of Gopalakrishnan et al. from the same or similar fields of endeavor disclose a method for transmitting control information over several control channels simultaneously, wherein the channels are configured to provide control signalling in the downlink to support enhanced uplink services (see paragraph 22 and 37, simultaneous transmission means that the channels are aligned).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the method for transmitting control information over several control channels simultaneously, wherein the channels are configured to provide control signalling in the downlink to support enhanced uplink services into the method for synchronizing uplink channels of Choi et al.

The motivation for implementing the method for transmitting control information over several control channels simultaneously, wherein the channels are configured to

provide control signalling in the downlink to support enhanced uplink services is that it provides a more efficient apparatus by reducing unnecessary latency by allowing simultaneous transmissions.

Regarding claim 8 and 20, Choi et al. disclose all the subject matter of the claimed invention except the method for code multiplexing the at least two physical channels with additional physical channels other than the third physical channel at the different time instant to generate a code-multiplexed signal to be used for uplink transmission.

However, the invention of Gopalakrishnan et al. from the same or similar fields of endeavor disclose a method for code multiplexing control channels between an I channel and a Q channel (see paragraph 35-36).

Thus, it would have been obvious to the person of ordinary skill in the art to implement a code-multiplexing method as taught by Gopalakrishnan et al. into the method for synchronizing uplink channels of Choi et al.

The motivation for implementing a code-multiplexing method is that it provides enhanced features and minimizes the complexity.

Regarding claim 9, Choi et al. disclose the method, wherein the aligning step includes synchronizing subframe boundaries of subframes of the at least two uplink physical channels so that the subframes are transmitted in the uplink at the same time instant (see column 5 lines 60-67, the synchronization of subframe boundaries is done by adding time L to the delay T_0);

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regarding claim 10, the subframes of the at least two channels are transmitted in the uplink so as not to overlap with uplink transmission of a subframe of the third channel (see column 5 lines 31-35, the uplink DPCHs are synchronized with one another, but they are not synchronized with the downlink DPCH; the downlink PDCH does not overlap the uplink DPCHs since they are transmitted at different time intervals).

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ponnekanti (US 2002/0150065) and Park et al. (US 2003/0002470) are cited to show inventions considered pertinent to the claimed invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is 571-270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PS



RICKY Q. NGO
SUPERVISORY PATENT EXAMINER